REMARKS/ARGUMENTS

This paper is submitted in response to the office action mailed July 15, 2003, in view of the telephonic interview of October 14, 2003 and the advisory action of November 13, 2003. In the advisory action, the Examiner found the rejection of claims 61-66 under 35 U.S.C. 102(e) based on Bearnson *et al.,* to be overcome by the submitted signed Declaration under 37 C.F.R. §1.132. The Examiner maintained, however, the rejection of claims 1-4, 7-60 and 67 under 35 U.S.C. §103(a) as being unpatentable over Barada et al., (JP2001-074049, equivalent to U.S. Patent No. 6,404,088, hereinafter "Barada") in view of Ueyama (U.S. Patent No. 6,215,218, hereinafter "Ueyama").

Section 103 Rejections

As briefly noted above, the Examiner rejected claims 1-4, 7-60, and 67 under 35 U.S.C. §103(a) as being unpatentable over Barada in view of Ueyama. In making a §103(a) rejection, an Examiner carries the burden of establishing a prima facie case of obviousness. *See, e.g., In re Glaug,* 283 F.3d 1335 (Fed. Cir. 2002); *In re Oetiker,* 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Fine,* 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); MPEP §2142. In order to establish a prima facie case, "all the claim limitations must be taught or suggested by the prior art." MPEP §2143.03. In light of the amendments to the claims made with this paper, the combination of Barada and Ueyama does not teach all of the limitations of the claims. More specifically, the combination of Barada and Ueyama does not teach a magnetic bearing system using a single displacement sensor to provide displacement output data to be used by a sensor offset compensation module and other apparatus to monitor and regulate the position of a movable body in the magnetic bearing system. As a result, the combination is insufficient to support the 35 U.S.C. §103(a) rejection, and claims 1-4, 7-60, and 67 should be allowed.

As amended above, independent claims 1, 19, 33, 50, and 67 refer to methods and systems for positioning a movable body suspended in a magnetic bearing system. These claims were amended to note that the magnetic bearing system includes a single displacement sensor—an axial displacement sensor configured to detect the axial displacement of a movable body suspended in the system. The axial displacement outputs produced by the axial displacement

sensor are then used to produce a sensor offset and are then adjusted using the offset to produce an adjusted axial displacement output that may be used to determine how to adjust the position of the movable body.

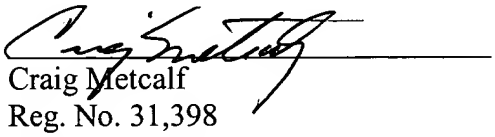
The combination of Barada and Ueyama does not provide a magnetic bearing system or related methods that anticipate the instant invention. In the advisory action of Nov. 13, 2003, the Examiner notes that: "Ueyama discloses a control magnetic bearing system. The system includes a displacement detection section with three (plurality) displacement sensors and a controller (Figure 3 item 2; column 6 lines 31-55)". The specification of Ueyama specifically explains that "[t]he displacement detection section 9 comprises an axial displacement sensor 23 for detecting the axial displacement of the rotator 5; and an upper radial displacement unit 24 and a lower radial displacement unit 25 for detecting the radial displacement of the rotator 5." Ueyama, column 6, lines 40-44. Each of these sensors is later explained to be a pair of functioning sensors. *Id.,* lines 45-49; column 7, lines 1-2, and 5-7. Displacement data from all three of these sensors is used to calculate the displacement of the movable body. *Id.,* column 7, lines 48-58.

Similarly, Barada provides a magnetic bearing system in which "two pairs of positional displacement sensors 5, 6, 7, 8 for detecting a positional displacement of the object 9" are used in the magnetic bearing system. Figure 2A illustrates these paired positional displacement sensors 5, 6, 7, and 8 as being placed radially about the movable object 9 being monitored. No sensors are provided to detect axial displacement data. *See, e.g.,* Figure 2A, column 4, lines 12-29. Thus, the method and system of Barada teaches the use of only radial displacement sensors and data in the magnetic bearing system and methods.

The combination of Barada and Ueyama gives no suggestion to omit the radial displacement sensors utilized in both patents. The magnetic bearing system of the instant application instead relies on axial displacement data alone to detect displacement and drive stability of the movable object. Because the combination of Barada and Ueyama fails to teach this limitation of the claims of the instant application, the rejection under 35 U.S.C. §103(a) should be withdrawn, and claims 1-4, 7-60, and 67 promptly allowed.

In view of the foregoing, applicants respectfully submit that the application is in condition for immediate allowance. In the event that any questions remain, the Examiner is respectfully invited to initiate a telephone conference with the undersigned.

Respectfully submitted,



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